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MARYLAND FISHERIES

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THE SPAWNING OF THE SMALL-MOUTH BASS

By FREDERICK TRESSELT

THE FINEST FISH inhabiting our local inland streams is the small-mouth bass, scientifically known as *Micropterus dolomieu.* In the spring of the year when the temperature of the water reaches 60° F. the male bass begins to think about starting in housekeeping and rearing a family. He thereupon emerges from the deep holes where he has spent the winter and explores the shallows, looking for a suitable site to start nest building. What he wants is a gravel shoal out of the main current of the stream, where the nest will be under from one to two feet of water, and, if possible, he will select a location near a large boulder or log where the nest will be protected on at least one side.

When such a site is found the male begins nest-building operations by standing vertically in the water, head pointing toward heaven, and with vigorous lashings of his tail clears the gravel of all clay and sediment for a space of from one to three feet in diameter. He then reverses his position and by alternately nosing small stones away from the center with his snout, and violently lashing with his tail, he gradually clears all the sand and small gravel from the center of the nest, leaving the larger stones smooth, clean, and free from intervening sand for a depth of three to six inches. The completed nest is

a flat, saucer-shaped depression with large stones in the center and small gravel and sand around the rim. Mr. Bass now stands guard over his nest, frequently making short excursions into deeper water in search of a mate, but always returning to hover over the nest and drive away anything that approaches. Woe betide the luckless minnow or frog that strays near the nest from now on. The male bass is a pugnacious fighter and few fish of any size care to tackle him during his nesting operations.

Shortly after the nest is completed Mr. Bass returns from one of his excursions into deep water accompanied by Mrs. Bass. She is driven upon the nest and forced to stay there, any attempt on her part to return to deeper water being frustrated by her lord and master. When the temperature of the water reaches 62°-65° F. the eggs are deposited and fertilized and, when spawning is completed, the female leaves the nest and is not permitted to return. Mr. Bass is not a believer in the adage that "woman's place is in the home," but takes the responsibility of rearing his numerous offspring on his own shoulders.

The bass eggs are about one-twelfth of an inch in diameter and practically colorless. They adhere to the stones in the center of the nest, many falling into the spaces between the stones. Constant guard is kept by the male, who hovers directly over the nest, fanning a current of water over the eggs with his pectoral fins, thus insuring them plenty of oxygen and preventing sediment from settling upon and smothering them. The number of eggs deposited ranges from 2,000 to 10,000, depending on the size, age, and physical condition of the female. The eggs are very delicate and in spite of the male's constant vigilance many die before hatching. A sudden rise or fall in temperature of eight degrees or more is sufficient to kill all the eggs on the nest, and during the spring rains the streams occasionally become so muddy that the eggs are covered with sediment and smother. Carp, eels, sunfish, and minnows are all very fond of the eggs and if Mr. Bass discards his constant watch and leaves the nest for any length of time he is liable to find his eggs sadly depleted in number when he returns. The eggs hatch in from five to fifteen days depending on the temperature of the water.

The young fish when hatched are very small, colorless, and have the power of adhering to anything they touch. They attach themselves to the stones in the nest, and remain quiet, feeding from the yolk sac attached to their abdomens. When this food supply is exhausted the fins and tail are brought into use and the young fish rise a few inches above the stones in the nest during the day and sink back in the evening. Gradually, day by day, they become larger in size and darker in color and can be seen at the surface of the water seeking food,

where they hover like a black cloud, constantly guarded by the male who swims around the school driving the stragglers back to the flock and savagely attacking any enemy who strays near. When the young fish are about half an inch long they are gently herded toward shore by Papa Bass. There, in shallow water they spread out in an irregular school, constantly feeding on the tiny microscopic life in the water. At this time they are very helpless and were it not for the constant watchfulness of the male parent they would soon be destroyed by their enemies. As the fish become larger and stronger the school begins to break up until, when the young are about an inch long, each fish is leading an independent existence and there is no further need for the male bass to remain on guard. He disappears, leaving the young fish to shift for themselves and struggle their own way up in the world. While we have to admire the way in which Mr. Bass discharges his paternal duties, it is the sad truth that if food conditions are adverse he will now devour, if he happens to meet them, any of the offspring which he has guarded so zealously for three or four weeks. The young bass are, however, well able to take care of themselves. They are swift, active swimmers and will dart into the vegetation or among the stones on the bottom at the least approach of danger.

The nesting habits of the small-mouth bass form a good example of how nature provides protection for the young during their helpless period, when it is most needed. Nature, however, does not take man into consideration, and the very zeal with which the male bass guards its nest and young, prove its own undoing when a fisherman drops a worm, minnow, or any artificial bait near the fish during the protection period. A bass will savagely attack any strange object which approaches his nest or young and, if caught, the entire nest of eggs or young fish are helpless and are soon destroyed by their numerous enemies. It is for this reason, mainly, that our legislatures have passed laws prohibiting bass fishing until the majority of the season's hatch have reached the stage when parental care is no longer necessary.

THE PURSE-NET AND OTHER TYPES USED IN CHESAPEAKE BAY

THE PURSE-NET likely originated in New England States for taking the menhaden fish for fertilizer. Virginia established at Reedville and other localities fish factories, and the purse-net developed in the Chesapeake Bay especially in Virginia. It then came into Maryland waters. Maryland at one time had established on Little Annemessex River at Crisfield a large factory owned by L. E. P. Dennis & Son, and on the

Patuxent River two factories, one owned by Overton Brothers and the other by Asa Ketcham.

The purse-net steamers had such control of the Chesapeake Bay in 1915 that as many as 43 were counted above the Patuxent River. It has been said that the menhaden fish steamers only took the menhaden fish due to the fact that the menhaden do not school with food fish. However, competent witnesses have seen large quantities of food fish brought into the plants, and, therefore, they became a dangerous menace to the fishing interests of Maryland.

While fish were taken by purse-nets in Maryland waters as far back as 1882, the use of the purse-net was not licensed by the Maryland Legislature until 1908. The taking of menhaden with purse-nets was outlawed in Maryland at a special session of the Legislature, known as the War Session, in 1917. The State of Virginia does not permit food fish to be taken with the purse-net, and any violator having more than one per centum of food fish is fined under the statutes of the Commonwealth of Virginia.

Prior to 1931 the menhaden fish steamers of Virginia were permitted to go into the Potomac River to take menhaden fish, which caused considerable anxiety on the part of residents of Maryland bordering on the Potomac. The river, which according to the Compact of 1785 is used in common for fisheries by the citizens of both states, should have uniform fishery regulations, and at a meeting held at Colonial Beach, Virginia, February 22, 1931, the Conservation Commissioner of Maryland especially brought this out before the Virginia Commission, and it was agreed by Judge Chinn, Commissioner of Fisheries of that state, that menhaden fish steamers in the future would not be permitted in the Potomac River.

While the purse- and buck-nets have always been associated together in legislation, there is difference in their construction and operation. Two boats are necessary to lay a purse-net around a school of fish, the ends of the net meet and overlap, and a drawing line brings the bottom together and forms a pocket. There is no possible way for the fish to get out.

The buck-net is sometimes used with one or two boats, and is laid around a school of fish and the fish gill in it. The fish have some show with a buck-net by getting under the net. More bluefish are taken in the buck-net than rock, and it is especially used for bluefish.

The floating and anchored gill-nets are used extensively in the Chesapeake Bay. This net is anchored to the bottom in deep water and floated by either a cork line or wooden beam below navigable waters in order not to interfere with navigation. These nets operate especially during the winter for rock, and are very destructive, as the fish during this period are

dormant. Nevertheless, the fish caught in these nets are not lost by spoiling due to weather conditions, as frequently happens during the summer season with purse-nets due to lack of ice.

The types of fish principally caught in the purse-net are the striped bass or rock and trout, but the greatest losses from spoiling may be attributed to the trout, as it is a soft fish and will not keep without ample ice.

The floating gill-net is mostly used in the late winter and early spring. They are floated with a cork line and are accompanied by boats which drift along with the nets. The fish gill in these nets. The fish especially taken by floating gill-nets are rock and shad.

The pound- or stake-net which is set on both sides of the Bay, as well as in the tributaries, is the principal net for taking shad and herring. This net has a hedging to guide the fish towards a pocket- or funnel-shape head, and after the fish get in they cannot find their way out. The head of the net is drawn to the bottom by lines through stakes and when these lines are loosened the fish are taken out with hand nets. These nets are licensed and have a limitation of 500 yards between nets, and also a space between the hedgings in order that boats may pass through. The law requires the name and lights placed on these nets and the stakes removed after the fishing season is over.

PROPOSED CHANGES IN FISH LAW ABOVE TIDE-WATER

THE DEPARTMENT has recommended certain changes in the fish laws of non-tidal waters of the State, and also more clearly defined the seasons when fish may be taken, etc. The most important of these changes are—lowering the age limit on those required to secure an angler's license, and eliminating dip-net licenses.

In the past, non-residents coming to Maryland to fish have enjoyed certain privileges not accorded them by their own states. This has not seemed exactly fair to the citizens of Maryland who resort to the fresh-water streams of the State for fishing, and an amendment has been made in the bill before the Legislature which provides that, "a license issued to non-residents shall not authorize the licensee, during the open seasons provided for in Section 71, to fish on such days or at such times as fishing is prohibited in the state of which the licensee is a resident." Sunday fishing is not permitted in some of our neighboring states, which has resulted in an influx of anglers into Maryland on Sundays and has tended to reduce the supply of fish in the local streams.

Bear Creek, Garrett County, On Which Is The Department's Trout Station

Scene At Solomons Island Where The State Biological Laboratory Will Be Established

PROSPECTS FOR THE TROUT SEASON

AS APRIL FIRST opens the spring fishing season in Maryland, the report of State Fish Culturist A. M. Powell, relative to the conditions in the trout streams of the State, is interesting. Mr. Powell states:

"The extreme drought which has prevailed in Maryland since early last summer has had a very serious effect on all waters of the State. Many of the deep-seated springs failed to flow and caused large creeks and rivers to dry up completely or contain only a trickle of water from pool to pool. All aquatic and fish life, insects, and other forms were completely destroyed in many streams, and very little propagation took place even in the larger waters. Of all the Western Maryland counties, Garrett was less affected than any other, and there was little destruction of fish in the many fine trout streams of that county.

"The propagation of fish at our six hatcheries and rearing stations throughout the State was affected only in so far as the growth of certain species was retarded. This pertains especially to fingerlings for next year's stocking. It is our policy to plant no trout under the legal size and no other species as fry or advanced fry, but only as fingerlings.

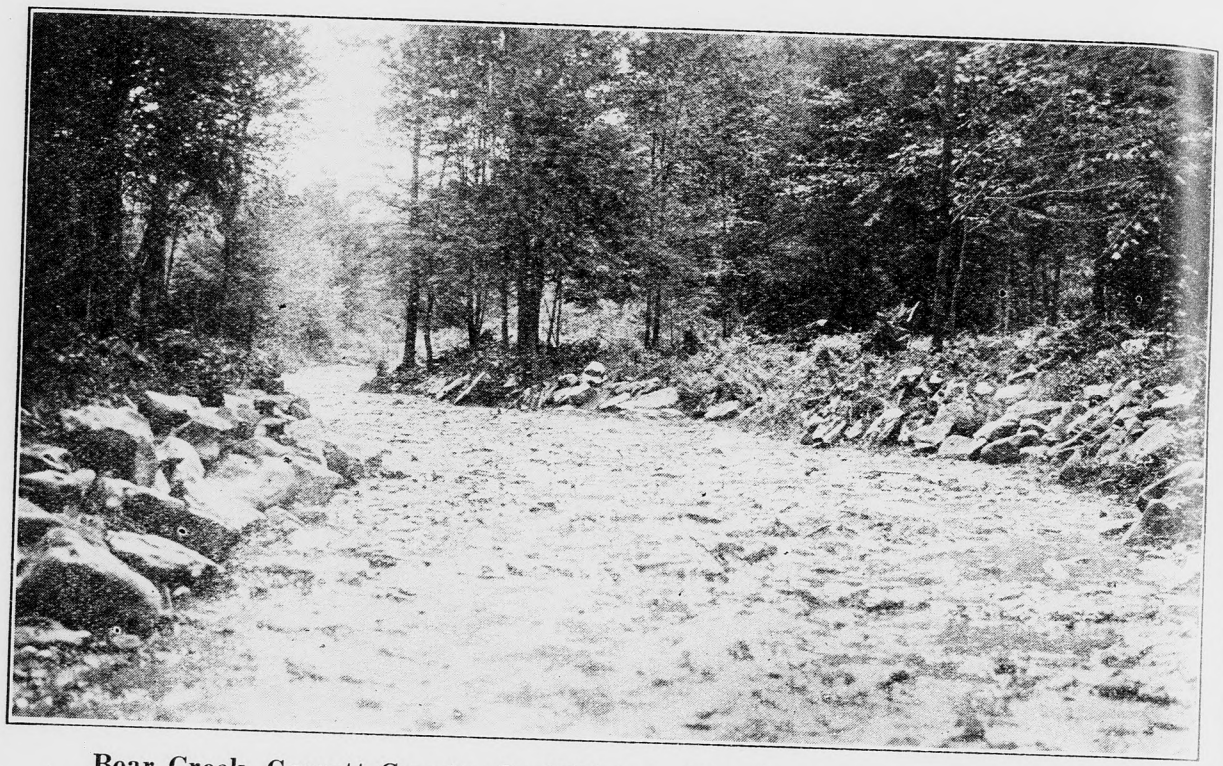
"We planted 76,000 legal-sized trout, that is, 7 inches or over, in the trout streams during 1930, and such plantings as have been made for the coming trout season have been from 10 to 14 inches in length, the average being 12 inches. With thousands of such fine large trout in the streams it is hoped that the anglers will enjoy good sport.

"The following are a few of the streams which the State has stocked to date:

Baltimore County	Western Run	Brown Trout
Carroll County	Beaver Creek	Brown Trout
Frederick County	Little Hunting Creek	Brook Trout
Frederick County	Fishing Creek	Brook Trout
Garrett County	Little Savage River	Brook Trout
Garrett County	Glade Run	Brook Trout
Garrett County	Bear Creek	Brook Trout
Washington County	Semple's Run	Brook Trout
Washington County	Young Run	Brook Trout

These are but a few of the many streams in each county stocked and waiting for the fly or the worm of the angler on April first.

"We are holding at our rearing stations 30,000 brook and rainbow trout to be carried over for next season's fishing. These fish will be as large as this year's plantings and perhaps larger, for many are 6 to 7 inches at the present time. We also have 500,000 fingerlings that will help to swell the numbers of trout in the State streams and assure one big year after another for our local fishermen."



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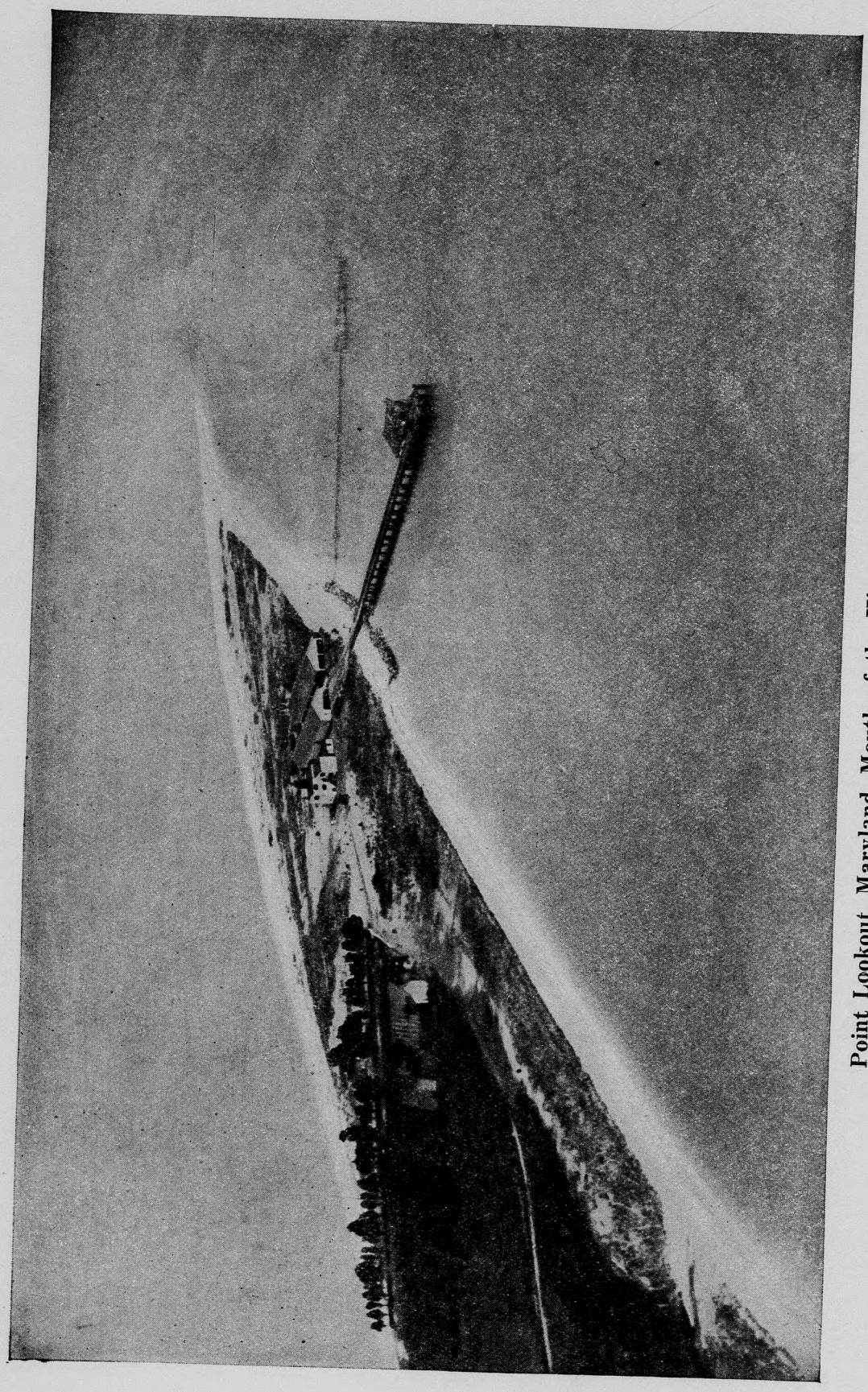


Point Lookout, Maryland, Mouth of the Historic Potomac River

SOLOMONS ISLAND SITE SELECTED FOR LABORATORY

AFTER a very careful investigation, covering a period of more than two years, to select the most suitable location for the establishment of the proposed Biological Laboratory for the study and investigation of marine products of Chesapeake Bay, the Conservation Commissioner reported to Governor Ritchie that Solomons Island offered the best site, and the Governor approved of this selection.

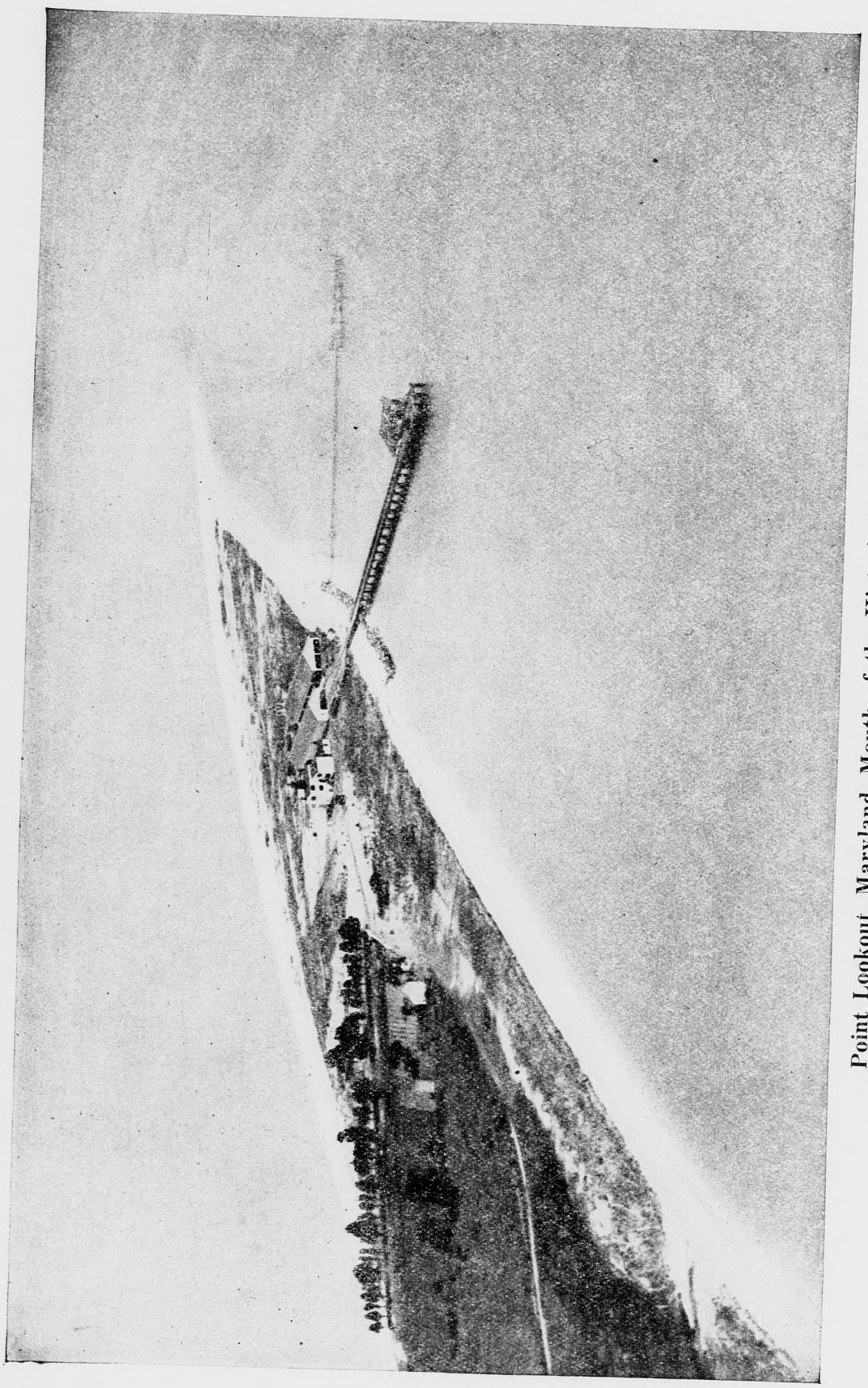
Tracts of land were offered for this purpose at Crisfield, Cambridge, Oxford and Point Lookout, but after careful consideration it was decided that Solomons Island, where the temporary laboratory has been located for the past six years or more, was most accessible to the points of investigation on the Bay and the water and other conditions were more suitable than at the aforesaid places.

The first appropriation for the laboratory made in 1929 was not deemed sufficiently large for the construction of a building of the type desired, and Governor Ritchie included in his Budget an additional appropriation of $25,000, which will pay for the erection of the building.

Senator Joseph C. Webster and other representative citizens of Solomons Island and Calvert County most generously secured and offered to the State without cost the tract of land for the laboratory. This plot of ground is sufficiently large to admit of extensions to the laboratory should they become necessary in the future.

The University of Maryland, through Dr. R. V. Truitt, has cooperated with the Department in this work for the past seven years, and the Biological Department of the University, as well as other colleges of Maryland, will furnish the investigating staff of the laboratory.

In connection with the establishment of the laboratory, a 1,000-acre experimental oyster farm will be set aside, which will be directly under the supervision of the Department and where important experiments dealing with the catching of spat and the raising of seed oysters, etc., will be carried on. The Department feels that this is the most progressive step yet made in the conservation and development of the water resources of Chesapeake Bay and will be aidful to the Department in its efforts to increase the oyster and fishery supply of the State.



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SWEPSON EARLE, Commissioner.

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[*This publication presents the views and policies of the Conservation Department.*]

SALTING THE BAYS OF WORCESTER COUNTY

THE bill introduced by Senator Veasey, of Worcester County, provides for the opening of an inlet about five miles below Ocean City and the building of jetties in order that the inlet may be permanent. This pending legislation, which promises to go through, will cost about $750,000, two-thirds of which will be paid by the State of Maryland and the balance by the United States Government. Plans and specifications were prepared by Colonel Earl I. Brown, U. S. A., of the United States Engineers Corps, and the feasibility of this project is backed by the War Department.

For many years the question of bringing the ocean water through Sinepuxent Beach and salting the Assawoman, Isle of Wight, Sinepuxent and Chincoteague Bays and their tributaries was the aspiration of the foremost citizens of Worcester County. In 1906 a charter was granted to the Sinepuxent Salt Water Inlet Company, turning over a certain section of the bays if they financed and successfully carried through such a project. It was not, however, until 1920, following a very severe storm in February of that year, that the sea flooded the beach and made an opening of considerable width which was used by fishermen. The results from the opening of this inlet were almost magical. Crabs came up from the lower Chincoteague Bay and the sponge crab was found above Ocean City. The clamming industry began almost at once as a result of the salting of the water, and in five years clams were being taken by the millions. Fishermen were able to make as high as $35 a day, clamming. Oysters were planted even above Ocean City and business commenced to thrive. Then the inlet began gradually to close and this was accompanied by the death of shell-fish of all kinds.

At the request of the Maryland Waterfront Commission, the Conservation Department last spring directed its engineer to make a sea-food survey of these bays. In the report which followed this investigation, it was found that these waters

contained about 55,000 acres and, if properly salted, the annual oyster production could be increased to 1,500,000 bushels along with an annual production of 40,000,000 or more clams, and the State would reap a considerable revenue by placing the entire sea-food industry under the Conservation Department to be administered under laws similar to those now governing the Chesapeake Bay and tributaries.

Maryland is not a natural clam-producing state, due to the fact that our water is not sufficiently salty for these bivalves. A few clamming bars, however, are found in the vicinity of Crisfield. The salting of the Worcester County bars will place Maryland in the front rank of clam-producing states, and would increase the total oyster production as well. These bays produce a very fine-flavored salt-water oyster, which would compare favorably with any on the Atlantic Coast.

The Conservation Department is strongly in favor of this project and feels that it would relieve the sea-food shortage in the Chesapeake until the oyster bars of the Potomac River and certain other sections can be rehabilitated by shell planting and rest.

A REST FOR THE OYSTER BARS

AS the last days of the General Assembly of Maryland of 1931 are drawing to a close, there seems to be a marked sentiment among watermen, generally, to close certain waters against scraping operations, in order that they may be restored to their former productivity. One bill pending before the Legislature provides for the closing of the Great Choptank River, which is used in common by the scrapers of Talbot and Dorchester Counties; another for the closing of the Honga River, used by the scrapers of Dorchester County, and a third bill provides for the closing, for a limited period, of Tangier Sound, which is used by the scrapers of Somerset County. A fourth bill provides for the closing of the Potomac River, in concurrence with an act passed by the Virginia General Assembly in 1930.

Just how many of these measures will have become laws by the close of the session is difficult to say. From a conservation standpoint they all have merit, and if these rivers are closed to scraping, the Department would naturally be in a better position to assist in their restoration by planting of shells and seed oysters. It will, of course, work a hardship upon the scrapers for a year or two, but the ultimate results will more than justify the sacrifice.

The situation in the Potomac River is somewhat different from that in the county waters, as it is a two-state problem, and the rehabilitation of these oyster bars cannot be brought about without the cooperation of Virginia and Maryland. It

is remarkable, in view of the constant fishing to which this river has been subjected by the citizens of the two states since the signing of the Compact of 1785, that any oysters are left on the bottoms of the Potomac. It is a testimonial to the virility of this marine animal and augurs well for its future if given a chance.

The Commonwealth of Virginia passed an act to close the Potomac for an indefinite period of time, and an amendment placed to the Mitchell-Coad Bill, now before the Maryland Legislature, reads the same as the Virginia Act. If this bill becomes a law, the Commissioners of the two states will use their best efforts to transfer seed oysters from the upper part of the Potomac to the oyster beds where needed, and it is believed that excellent results will be obtained.

THE LOUISIANA BULLFROG INDUSTRY

From *Louisiana Conservation Review*

By C. L. LAMBERT

THE PRESS, journals, and magazines of the country publish a great deal about the different products and industries of Louisiana, but very little has been printed about the Louisiana bullfrog as an industry.

The sale of frogs has grown from a very minor industry into one of large proportions, and is still increasing rapidly, as a comparison between the output of 1925 and that of 1930 will show.

Many people are familiar with the frog as a food, having been served this delicacy at the leading cafés and restaurants. They are doubtless aware of the food value of the frog, and its vitamin content, yet very few of these people are familiar with the life history, habitat, and economic importance of the Louisiana bullfrog.

Our legislators, realizing the value of the frog as a food, have enacted laws governing their protection and shipping. Among the most important laws are the "no gig" law, the law relative to the size of frogs taken, and that which prohibits the shooting of frogs. These laws, well enforced, enable the shipper to place on the market frogs free from fever or injury.

Like the muskrat, the frog seems to like the lowlands, where the lagoons and bayous abound, and where thousands of acres are constantly flooded with fresh water during each overflow.

It is in this territory, dense, grown up in tupelo, cypress, and other trees, that one can hear frogs croaking by the millions in their coarse voices. Here it is that the frogs mate, and

where literally thousands of eggs are laid. After spawning, frogs disband, and scatter over their chosen areas.

The eggs are enclosed in a jelly-like mass, and are soon hatched by the heat of the sun. The small wriggling creatures that come from the eggs are tadpoles, and they swim about in the water in clusters and schools like so many fish.

During the next stage the hind legs appear, like twigs upon trees, and later the front legs are formed.

There are various reports upon the length of time it takes for a frog to mature, from the hatching of the egg, until it reaches adult size, and four years seems to be the period usually allowed for that development. Experience shows that at two or three years of age some of the frogs reach a very satisfactory edible size. While some frogs have been seen weighing 1¼ to 1½ pounds each, they are not plentiful in the average lowlands, while in the higher parts of Louisiana, in waters where the current is very swift and subject to annual overflow from some river, a few are found averaging the higher weights, but very few.

Frogs when disturbed plunge into the water with a leap, making a noise that can be heard a long distance.

The tadpole feds upon minute plants, and the frogs are very fond of crayfish, young fish, fish eggs, herbs, snails, and insects. If kept in close captivity the old frogs will eat their own eggs and tadpoles. In breeding frogs, the eggs, tadpoles, and frogs must be kept in different pens. It is not known if this cannibalism is practiced in the open or not.

It is estimated that one female frog lays several thousand eggs, and to one not familiar with the many enemies that live upon the spawn and small frogs, it would seem that the country would be flooded with frogs, and that the market would be oversupplied. This, however, is not the case, for the minute the eggs are laid, their enemies, such as snakes, minks, coons, opossums, fish, turtles, alligators, and birds all begin to enjoy a meal of "egg roe." Even the crayfish enjoys his portion of the frog spawn. So it can easily be seen how it is that we still have a large and growing market for Louisiana frogs.

In our State there are certain communities where the people depend largely upon frog catching for a livelihood.

The frog catchers use a headlight (carbide) which throws a strong light upon a certain spot. The catcher, through the experience gained in long seasons of this work, can readily discriminate between a frog's eye and that of an alligator or snake. These creatures lie in wait to take their toll of frogs and tadpoles.

When the fisherman has spotted his prey, he reaches down quickly and quietly, and rushes the wriggling, squirming frog into his shoulder pack.

From there the frogs are transferred to boxes or bags at the camp when the catch is made. Here they are dressed, and rushed to cold storage, or are sold alive, if the dealers prefer them that way. (By the term "dressed" is meant that the heads are cut off, entrails removed, but skin left on.)

Today the Louisiana frogs are marketed in practically every part of the United States, from coast to coast, and from the Gulf to Canada, and even in Canada. The fastest express trains are used in rushing the product to the market, and rigid instructions as to reicing, repacking, and handling in transit, as well as to quick delivery, are urged upon the express company under threat of heavy penalties if loss is incurred.

Frogs are considered a very fine substitute for meat, and many epicures regard frog legs as the height of gastronomic delight. They are prepared for cooking by removing the skin, cutting in four parts, (which leaves a piece of the backbone on each fore and hind leg), making them ready to be fried or broiled. Some people like them baked whole, or stewed, or made into the famous French "Court bullion," with Creole seasoning.

The frogs' skins are used to make a fine glue, and the heads and entrails are used for fertilizer. Thus practically all of the Louisiana frog can be used in some valuable and practical manner.

LEGISLATION TO CLOSE SCRAPING AND DREDGING AREAS WISE

THE CONSERVATION DEPARTMENT is much interested in legislation which has been introduced by representatives of certain tide-water counties, and now pending before the General Assembly of Maryland, to close certain waters to scraping and dredging.

One bill deals with the Great Choptank River; another with the Potomac, and it is understood that consideration is being given to the Honga River, Dorchester County, and Tangier Sound, Somerset County.

The attitude of the Conservation Department naturally is to see that the oyster supply is increased, and this rehabilitation will certainly come about more rapidly by giving these oyster bars a chance to rest. The Department will do its utmost to aid this rehabilitation work by the planting of more shells and seed oysters where practicable and increase police protection in any waters which are closed.

The Potomac River, which is State waters under the Compact of 1785, is used in common by the fishermen of Virginia as well as the fishermen of Maryland.

It is realized that all fishery regulations and laws dealing with the Potomac should be uniformly carried out by the two states. The Commonwealth of Virginia has concurred in legislation passed by Maryland, and, as Virginia has taken the lead in closing the Potomac to dredging, it would seem cooperative for Maryland to now concur in the Act passed by the Commonwealth of Virginia in 1930.

This rehabilitation of the Potomac would have been a much more difficult problem had not a catch of spat (young growth of oysters) occurred in the Potomac last year. By closing this river and protecting the young growth and by transplanting some of the seed from the seed areas of the Potomac, we may expect this valuable tributary of the Chesapeake to again become commercially productive in the oyster fishery.

In the survey made by Dr. Luce, of the U. S. Bureau of Fisheries, in 1928, it was found that the oyster bars of the Potomac, which had been so productive in the past, were seriously depleted of shells and seed and while Maryland inaugurated a shell-planting campaign in 1927, this did not apply to the concurrent waters of the Potomac River. Only the tributary waters on the Maryland side have been shelled, and not since the Compact of 1785 has any constructive work been done in the Potomac to save these oyster bars from destruction.

The Department is in accord with the legislation introduced jointly by Senator Walter J. Mitchell, of Charles County, and Senator J. Allan Coad, of St. Mary's County.

GOVERNMENT TO STUDY STRIPED BASS OF CHESAPEAKE BAY

The United States Bureau of Fisheries is about to start a study of the habits of the striped bass or rock fish found in the waters of the upper Chesapeake Bay. Mr. John C. Pearson, who for the past two years has been engaged in a study of fishing conditions in the lower end of the Bay in Virginia waters, has been detailed by the Bureau of Fisheries to undertake this work in Maryland.

In connection with his special investigation of the striped bass, Mr. Pearson will be stationed at Annapolis. The Conservation Department will cooperate to the fullest extent in this important work.

Since the first of January numbers of cod have been taken in the Chesapeake Bay as far north as the York River and, while these fish have been found in the Bay before, it is unusual to find them in such large numbers and particularly as far up as the York River. The cod is a native of New England waters and is chiefly found along that coast where it is a most important fishery.

HATCHERY TROUT PLEASE ANGLERS

Former Fish Commissioner W. A. Smith sends a letter to the Department relative to the condition of trout which are being turned into the fresh-water streams of the State. His letter is quoted as follows:

Hoyes, Md., March 17, 1931.

MR. SWEPSON EARLE, *Conservation Commissioner,*
Baltimore, Md.

DEAR MR. EARLE:

I want to thank you in behalf of myself and the other fishermen in our immediate neighborhood for the nice trout just placed in our streams by your Mr. Powell and Mr. Browning. The trout were a nice size, ranging from seven to ten inches, and lively. I had the extreme pleasure of helping to place them and, as I was fish commissioner for four years, I know what it means to propagate them and place them properly.

Permit me also to thank you for the 1930 report just received.

Very truly yours,

W. A. SMITH.